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# THE CANDLING AND PRESERVATION OF EGGS



Demonstrating the Preservation of Eggs in Water Glass.

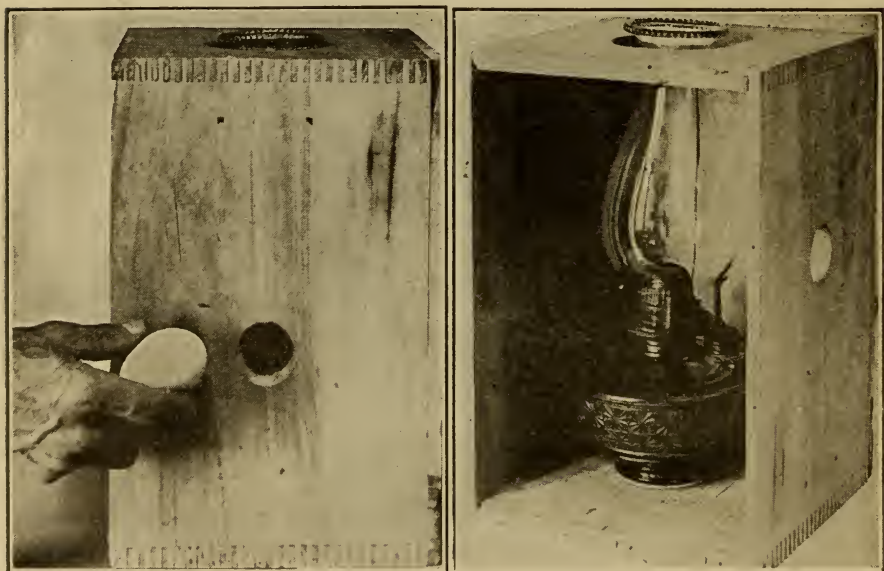
Issued by the  
Animal Husbandry Division  
UNITED STATES DEPARTMENT OF AGRICULTURE  
Washington, D. C.

## CANDLING EGGS FOR CONDITION AND QUALITY

*Occasion for Candling.*—The shell of a new-laid egg has a soft “bloom” which is the visible sign of perfect freshness. This bloom is destroyed by a touch, and in any case disappears after a few days’ exposure to the air. After that the appearance of the shell is not a reliable indication of the condition of the contents.

*Definition of Candling.*—By holding an egg between the eye and a strong light in such a manner that the rays of light come to the eye through the egg the condition of the contents can be seen. This method of examining eggs is called “candling.”

*Appliances for Candling.*—Candling eggs is done in a dark room, using a light inclosed in a case having opposite the light a hole of appropriate size and shape at which the egg is held for examination.



Homemade Box Egg Tester. A—Exterior View—hold egg over hole in box, large end up.  
B—Interior View—use lamp or electric light. Have flame of lamp directly opposite the hole in the box.

An ordinary hand-lamp, a lantern, an incandescent bulb, or a flash-light may be used. Any box large enough to hold the lamp, set on end, can be used for a case. Besides the hole in the side opposite the light there should be a hole in the top end (see illustration); otherwise the heat over the light would fire the box. A

tester chimney such as is used on a lamp for testing eggs in incubation may be used for candling.

*Manipulation.*—Have the light on a table or shelf as may be convenient. Place the eggs to be candled at one side; at the other have separate receptacles for good and bad eggs. Take the eggs one by one and hold, large end up, close to the light.

*Appearance of Eggs in Candling.*—A perfectly good, fresh egg shows “full” and “clear” before the light; there is almost no air-cell at the large end, and the yolk outline is only faintly discernible.

A fixed air-cell of 1-8 to 3-16 inch in depth indicates a fresh egg as eggs run in general receipts. A larger air-cell with a mobile lower line indicates—according to size and fluctuation—a stale egg, or one becoming weak and watery.

Very small spots in an egg are usually blood clots. Large spots, rings, and shadows are due to heat and germination, and indicate decomposition in the first stages. An egg that is opaque except for a large fixed air-cell contains a chick dead at an advanced stage of incubation. An opaque egg with large air-cell having a mobile lower line is in an advanced stage of fluid decomposition.

*Use of Eggs Discarded in Candling.*—Eggs showing slight spots or rings can often be utilized by breaking them and separating the bad part. Eggs that are not offensively bad may be used for poultry feed.

## PRESERVING EGGS IN WATER GLASS OR LIMEWATER

During the spring and early summer, when eggs are abundant and reasonable in price, attention should be given to preserving them for winter use. Fresh eggs properly preserved may be kept for 8 to 12 months in excellent condition and used with good results.

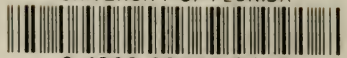
Eggs laid during April, May, and early June have been found to keep better than those laid later in the season.

If satisfactory results are to be obtained, the eggs should be fresh and clean and, if possible, infertile. Eggs that float when placed in the solution are not fresh and therefore can not be preserved. When an egg is only slightly soiled, a cloth dampened with vinegar can be used to remove such stains. Under no circumstance should badly soiled or cracked eggs be used for preserving; if put into the jar while dirty they will spoil and washing removes a protective coating which prevents spoiling.

### WATER-GLASS METHOD

A good method for the preservation of eggs is the use of water glass or sodium silicate. If the price of water glass (sodium sili-





cate) is about 30 cents a quart, eggs may be preserved at a cost of approximately 2 cents a dozen. It is not desirable to use the water-glass solution a second time.

Use 1 quart of sodium silicate to 9 quarts of water that has been boiled and cooled. Place the mixture in a 5-gallon crock or jar. This will be sufficient to preserve 15 dozen eggs and will serve as a guide for the quantity needed to preserve larger numbers of eggs.

(1) Select a 5-gallon crock and clean it thoroughly, after which it should be scalded and allowed to dry.

(2) Heat a quantity of water to the boiling point and allow it to cool.

(3) When cool, measure out 9 quarts of water, place it in the crock, and add 1 quart of sodium silicate, stirring the mixture thoroughly.

(4) The eggs should be placed in the solution. If sufficient eggs are not obtainable when the solution is first made, additional eggs may be added from time to time. Be very careful to allow at least two inches of the solution to cover the eggs at all times.

(5) Place the crock containing the preserved eggs in a cool, dry place, well covered to prevent evaporation. Waxed paper covered over and tied around the top of the crock will answer this purpose.

#### LIME METHOD

When water glass cannot be obtained, the following method may be used in its stead. Many consider this method entirely satisfactory, though instances are known where eggs so preserved have tasted slightly of lime.

Dissolve 2 or 3 pounds of unslaked lime in 5 gallons of water that has previously been boiled and allowed to cool, and allow the mixture to stand until the lime settles and the liquid is clear. Place clean, fresh eggs in a clean earthenware crock or jar and pour the clear lime water into the vessel until the eggs are covered. At least 2 inches of the solution should cover the top layer of eggs. Sometimes a pound of salt is used with the lime, but experience has shown that in general the lime without the salt is more satisfactory.

#### USING PRESERVED EGGS

Fresh, clean eggs, properly preserved, can be used satisfactorily for all purposes in cooking and for the table. When eggs preserved in water glass are to be boiled, a small hole should be made in the shell with a pin at the large end before placing them in the water. This is done to allow the air in the egg to escape when heated so as to prevent cracking.